

## BLM Study Review of Hells Canyon Complex Studies

Shoreline Erosion in Hells Canyon

Technical Report Appendix E.3.2-42

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### 1. INTRODUCTION

Five reaches of the Snake River were inventoried by field crews to estimate the percentage of shoreline erosion above the high-water level. The objectives of the study were to: Conduct a literature review to identify and summarize information on the occurrence of erosion, the erodability of soils, and the potential for mass movement of shoreline soils in the study area; Conduct a literature review to gather information on the factors that cause shoreline soil erosion and the relative influence such factors have on erosion in the study area; Inventory shoreline soil erosion in the study area; Assess and summarize the factors that affect shoreline erosion in the study area; and Develop a GIS thematic coverage of shoreline erosion for the study area, to be used in various other studies and analyses of natural resources in the Hells Canyon area.

### 2. CONCLUSION

On page 3 the study states; “Most of the erodible substrates have already been removed in this steep canyon environment regardless of the Hells Canyon Complex.” The BLM disagrees with this in that adjacent tributaries to the three Snake River reservoirs were not analyzed or considered in this statement, which could also provide a variety of substrate to the river system.

On page 9-11, **2.5. Vegetation**; the study states; “A narrow band of diverse riparian communities intermittently follows the course of the Snake River and its many tributaries. Although limited in geographic area, this riparian zone is vital because of its biological diversity.” The plan then proceeds to list (although not an exhaustive list) various plants found in riparian zones. The BLM suggest that the sentence which references emergent wetland communities be rewritten to reflect actual emergent and riparian species such as *Scirpus*, *Typhus*, *Carex*, and *Juncus*. The BLM also suggests that the entire paragraph be rewritten to reflect native emergent and riparian herbaceous/woody species separate from weedy/exotic species, such as tamarisk, loosestrife, pepperweed, etc. Scotch thistle, a prolific upland species found throughout all three reservoirs should be added to the weedy/exotic list. Many woody riparian species (especially various species of *Salix*) located in adjacent tributaries to the reservoirs are not listed. Also, the last sentence in the paragraph that references Holmstead (2001) is not correct. The weedy/exotic species listed in the paragraph can be found throughout most of Brownlee Reservoir vicinity.

On page 35 the study states; “It might not be practical or feasible to stabilize and revegetate most of the shoreline erosion sites in the study area.” Also on page 35; “Rather than attempting to stabilize and restore most erosion sites, the best management plan would address those human-caused activating factors that trigger erosion on shoreline banks.” While the BLM agrees that the human-caused factors need addressed, the BLM also thinks that revegetation of erosional sites should be completed, especially in the Brownlee reservoir area. The study points out that noxious weeds and lack of native perennial vegetation leads to increased erosion rates. To counteract this, treatment of noxious weeds and seeding and planting of native species should take place to restore the area and help reduce the erosional rates. These treatments may need to take place on the uplands adjacent to the reservoirs as well as along the shoreline. The BLM believes that planting and seeding along some eroded sites can be effective in re-establishing native vegetation and reducing erosion. The Brownlee reservoir area should be the highest priority for this restoration because of the large area and the relatively low percentage of riparian vegetation (the study indicates approximately 10% of the Brownlee shoreline has riparian vegetation, about half that of the Oxbow and Hells Canyon reservoir shorelines, page 20). Adjacent tributaries to these reservoirs should also be analyzed for noxious weed treatments and native vegetation establishment, in addition to addressing the human-caused factors, to reduce erosional rates.

### **3. STUDY ADEQUACY**

For the most part, the study was adequate for the area that was analyzed (the areas adjacent to the Snake River and the three reservoirs). However, the BLM feels that tributaries adjacent to the reservoirs should also have been included in the analysis. The fluctuations of the reservoir levels can adversely affect the stability of the tributary channels and their stream banks upstream further than that analyzed in the study.

The BLM also thinks that roads should have been analyzed in more depth. The one short paragraph on page 25 could have been expanded to identify road segments currently causing erosion problems, recommendations to fix known problems, and the extent of impacts roads are currently having on the erosion of shorelines within the study area.

### **4. BLM CONCLUSIONS AND RECOMMENDATIONS**

#### **CONCLUSIONS:**

The BLM agrees with the study conclusions that the best management plan should address human-caused factors that exacerbate erosion on shoreline banks. However, the

BLM disagrees that it is not practical or feasible to try to stabilize and/or revegetate sites that have already experienced some type of erosion, especially in the Brownlee reservoir area. Addressing the human-caused factors without incorporating pro-active restoration techniques may keep shoreline erosion at the current level, but may not reduce the erosional level because of the lack of native vegetation and will do nothing to control noxious weeds already established in the area.

#### **RECOMMENDATIONS:**

In addition to addressing human-caused factors related to erosion, stabilization of erosion features using methods such as controlling noxious weeds and re-establishing native vegetation by seeding and planting should be employed. In addition, noxious weed treatments and revegetation projects should be used on upland slopes above the reservoirs and in the tributaries adjacent to the reservoirs.

Roads should be looked at in greater detail in their contribution to shoreline erosion, not just adjacent to the reservoirs, but also those roads within the riparian areas of tributaries to the reservoirs.